

## The British Friends Visit to the Technion on Israel's 60<sup>th</sup> Birthday

On Wednesday May 28<sup>th</sup> 2008 I joined the British Friends group to hear Technion President Professor Yitzhak Apelsig. He told us that out of 7,000 universities applying for three hundred research scholarships in the European Union, Cambridge came first, of course, and the second was the Technion with seven awards. The Hebrew University followed, with Oxford in fourth place - enough to make a British Israeli like me brim with pride and joy.

During a bus tour around the Technion campus, we visited the Churchill Auditorium due to be refurbished by the British Technion Society when funds are raised. Churchill himself encouraged the founding of the Technion, saying so wisely "the future of Israel depends on its technological achievements".

Then began a round of outstanding experiences taking us into a world of science fantasy come true.

Prof. Uri Sivan, head of Russell Berne Nano Technology Institute, newly-established in 2005, gave us an overview. Nano comes from the Greek word for dwarf and is on a scale of 1/10,000 of the width of a human hair. We heard about nano-based materials which are stronger and lighter with huge potential for future building of bridges etc. Medical applications are in diagnostics and therapeutics, such as delivering drugs to specific targets.

Seeing researchers clad in white gowns going through the "clean room" procedure reminded me of "Prey" by Michael Crichton, a thriller about swarms of nano particles taking over a laboratory. Electronic noses have nano-sensors which are able to identify cancers before they are life-threatening.

On to food engineering to hear about the vital cholesterol-lowering ingredient in olive oil and the value of probiotics such as live yoghurt etc. in preventing carcinoma of the colon.

Unforgettable for me, as a doctor, was seeing two stem cells grown to be myo blasts of heart muscle actually beating in front of our eyes on the screen. This is the faculty of bio-medical engineering and Dr. Shulamit Levenberg's stem cell laboratory (voted one of the top fifty scientists in the world). Seeing hundreds of these cells beating in unison on its framework was stunning. These cells apparently communicate with each other through substances called gep junctions and theoretically could be used as a patch to mend a "broken heart" after a heart attack.

We ended the day with Prof. Danny Weihs, Head of Autonomous Systems Research Centre in a huge hangar with a giant sandpit at its centre used to test sensors for ambushed explosives.



Scattered around were self-managing intelligent machines, some autonomous and some remote-controlled, that drive themselves, and motor-bikes that stand up themselves.

A group dinner with world sleep expert, Prof. Peretz Lavie, at the Dan Carmel was rounded up with some amazing "sleep" stories. "And so to bed, perchance to dream".

The next day, after a downbeat breakfast talk by the Mayor of Haifa about poor investment in the city, we descended the Carmel for a visit to the Technion's Rambam Medical School, next to Rambam Hospital.

Greetings from the Dean, Prof. Ido Perlman, who emphasized the value of multi-disciplinary approach to technology in the modern world. Special courses for students at Technion and Medical School in molecular genetics, biology, mathematics and chemistry are now de rigueur for this generation to function in their own specific fields and faculties are co-operating in the revolution to give a catholic education instead of jealously guarding their own territories as in the past. This enlightenment is the source of excellence at the Technion and Rambam.

A faculty lunch around the table with post-doctorate students and professors gave us a chance to clarify muddy concepts, such as treating a paralysed mouse suffering from multiple sclerosis with a floating

agonist receptor in the blood. This is leading to the minor miracle of seeing these mice get up and walk again.

The next great advance we were privileged to observe at the Department of Physiology and Biophysics was in this "operating theatre" placed with many tables, some with "models" lying on them - a little eerie. Here ultrasound waves are focused through the skin to the liver or breast, brain or prostate, and the tumour, benign or malignant, is cauterised away. Surgery without any incision! Magnetic resonance is used to pinpoint the growth. Apparently, St. Mary's in London is using it for the

treatment of fibroids in the uterus.

A drive to Israel Aircraft Industries found us in genuine hangars seeing huge drones (Maslats), pilotless planes and gulf-stream planes, private jets for rich moguls.

A change of paradigm: we entered the beautiful house and garden of the British Ambassador in Ramat Gan and a touch of gracious living. We relaxed as we were served canapés of fresh apricots filled with Roquefort cheese (kosher of course) on the lawn surrounded by flame trees in full bloom, blue jacaranda and fragrant frangipani.

As the Ambassador was engaged with a visiting British Minister of State, we were hosted by his charming and articulate deputy, Janet Rogan and the



Head of the British Council. Miss Rogan gave us an exposé of current Anglo-Israel approaches and stressed the strategic change brought about by Iran being the common enemy to 60-year-old Israel and to many Arab States, including Saudi Arabia. Apparently these states are looking to Israel and the U.K. to help; "the enemy of my enemy is my friend" so to speak.

The Technion International Board of Governors meeting began the following evening. As it is an annual event, people from as far away as Australia, Brazil and Canada greeted each other as old

friends in the hotel. We joined them for an Oneg Shabbat Dinner with senior faculty staff. On Shabbat, a Technion faculty presentation entitled "Israel - 60 years Ahead" took place in the conference hall of the hotel and it was a very impressive production. The programme continued for four more days and I was sad to leave, but excited and inspired by hearing of so many "firsts" for Israel in her groundbreaking and boundary-stretching discoveries.

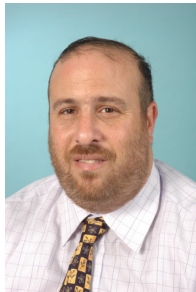
"Carry on Technion!"

*Trudy Coleman*

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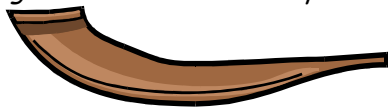
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*If the Jewish people do not call out and do not blow the shofar, but rather say that this is happening to us because it is the way of the world, they will inevitably bring still further trouble upon themselves and their brethren.*



From "Laws of Fast Days"

**Maimonides**